DOI: 103126/JNPS.V4113

Case Report

Multiple Splenic Abscess in an Immunocompetent Child: A rare case Report

Bablu Kumar Gaur[1], Amiya Yadav [2], Areeba Saifi[2], Rupa R Singh[3]

[1] Professor, [2] Junior Resident, [3] Professor and Head of Department

All from: Department of Paediatrics, Teerthanker Mahaveer Medical College and Research Center (TMMC & RC), Moradabad, Uttar Pradesh-244001, India.

Article History
Received on - 2023 Oct 08
Accepted on - 2024 Jan 03

Keywords:
Children, enteric fever; splenic abscess

Abstract

Enteric fever is one of the most common bacterial infections found in developing countries. Splenic abscess is a rare and unrecognized but fatal complication of enteric fever in children. This is usually solitary rather than multiple and can be dangerous if untreated. Here, we report a case of splenic abscess in an adolescent girl who was successfully managed with antibiotics and percutaneous drainage of pus from the splenic parenchyma.

Online Access

DOI: https://doi.org/10.60086/jnps525

Correspondence

Bablu Kumar Gaur,
Professor,
Department of Paediatrics,
Teerthanker Mahaveer Medical College and Research Center (TMMC & RC),
Moradabad, Uttar Pradesh-244001,
India.
Email: drbkgaur@gmail.com

Introduction

A splenic abscess is an infectious process with a discernible macroscopic filling defect, either in the spleen's parenchyma or the subscapular space. It is a rare but life-threatening entity in children.[1] Despite high incidence of infections in India, splenic abscess caused by enteric fever is still a rare occurrence.[2] Splenic abscesses can be granulomatous, fungal, or bacterial.[3] Fever, left upper quadrant stomach pain, nausea, and vomiting are the main symptoms.[4] The most accessible method for a provisional abscess diagnosis is still USG abdomen, but contrast-enhanced computer tomography of the abdomen is the preferred investigation because it can distinguish between an abscess and an infarction, which show up as focal areas of poor attenuation and lack of an inflammatory rim.[5] Current therapeutic approaches favor antibiotic therapy and percutaneous drainage after diagnosis. This has fewer postoperative consequences and is therefore preferred to more extreme treatments like splenectomy, which are only used for individuals who don't respond well to conservative methods.

Case Report

A previously healthy 14-year-old adolescent girl was admitted to our hospital with a history of high-grade fever for 15 days, followed by abdominal pain seven days later. On clinical examination, the abdomen was soft, non-distended, and tenderness was present in the left upper quadrant region. The spleen was palpable 3 cm below the subcostal margin. Her vitals were stable. Laboratory findings showed hemoglobin: 10.3 mg / dl, total leukocyte counts: 7250 cells / mm^3 (58% neutrophils and 34% lymphocytes), and platelet counts: 2,30,000 / mm^3. Serum urea, creatinine levels, and urine analysis were normal. X-rays of the chest and echocardiography were normal. Sickling test, rapid malaria antigen test, serology for scrub typhus, and leptospirosis were negative. The workup for tuberculosis was negative. Widal test was positive with an 'O' titer of 1:320 and an 'H' titer of 1:160. The Typhi Dot-M test was also positive. The final blood culture was sterile. Abdominal ultrasonography revealed two ill-defined hypoechoic areas in the spleen, most probably splenic

collection. Contrast-enhanced computed tomography (CECT) abdomen done thereafter revealed an enlarged spleen with two well-defined thick-walled hypodense lesions in the spleen, with the largest measuring 75 × 35 × 25 mm (Volume: 80 - 100 cc) at the inferior aspect of the splenic parenchyma and another wedge-shaped lesion measuring 45 × 11 × 15 mm (volume: 10-15 cc) at the superior pole of the spleen. [Figure 1] USG-guided splenic aspiration was done, which yielded approximately 50 ml of pus. She was put on intravenous antibiotics (ceftriaxone 2 gram 12 hourly and ampicillin + cloxacillin 1 gram 6 hourly). After three days, the culture of the pus showed growth of Salmonella typhi, and antibiotics were revised as per the culture sensitivity report. Fever spikes decreased in frequency, and she became completely afebrile after two weeks of IV antibiotics. The patient was discharged after completing four weeks of IV antibiotics. Follow-up CECT abdomen after two weeks of discharge showed a reduction in the size and volume of the splenic abscess (36 × 19 × 10 mm) in the splenic parenchyma. [Figure 2] There was no recurrence of fever or abdominal pain on follow-up.

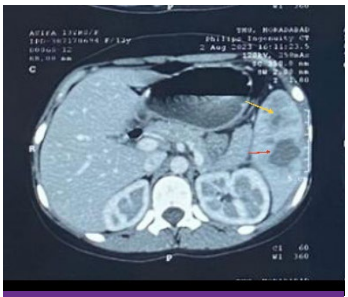

Fig 1: CECT abdomen (axial view) shows an ill-defined thick walled lesion at the inferior pole (size: 75 × 35 × 25 mm) and superior pole (45 × 11 × 15 mm) of the spleen (Yellow and red arrow).

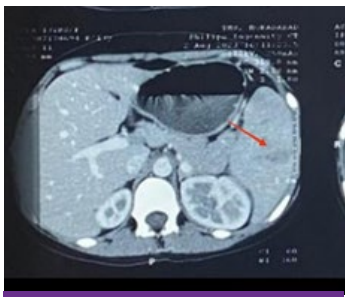

Fig 2: CECT abdomen after two weeks showed reduction in the size and volume of the splenic abscess (36 × 19 × 10 mm) in the splenic parenchyma. (Red arrow).

Discussion

Salmonella infections frequently affect the hepatobiliary system and the spleen. Splenic abscesses are generally present in children over the age of 10 years. Enteric fever, sickle cell disease, tuberculosis, hematological malignancy, and secondary infections from infective endocarditis and appendicitis are the most common causes of splenic abscess in children.[6] Salmonella typhi, Staphylococcus aureus and anaerobic organisms are the most common causative agents.[7] Splenectomy with antibiotic therapy was the standard treatment in the recent past. Because of a better understanding of the spleen's immune function in recent years, the strategy for splenectomy has become more cautious. Broad-spectrum antibiotics with percutaneous drainage are effective in most of the cases.[8] In our case, the patient has recovered significantly following the complete course of broad-spectrum antibiotics. No case report on similar topics was published in the literature between 1940 and 1976. However, in recent years, there have been reports of roughly 22 cases of splenic abscess in children, as a consequence of increasing prevalence of enteric fever, especially in the developing regions of the world.[9] Enteric fever with multiple splenic abscesses was described in India by Gupta et al.[10]

Conclusion

Enteric fever complications are quite common. Whenever a child with enteric fever has persistence of fever and abdominal pain despite appropriate antibiotics, it is prudent to rule out splenic abscess, especially if the child has left upper quadrant mass. If general conditions allow, the child should receive a trial of a spleen-saving therapy that involves broad-spectrum IV antibiotics and percutaneous aspiration.

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